

# **DEVELOPING THE THEATER LEVEL AERIAL PORT OF DEBARKATION, ORGANIZATION AND STRUCTURE**

A Monograph  
By  
Major David J. Kolleda  
Transportation Corps



19960924 020

School of Advanced Military Studies  
United States Army Command and General Staff College  
Fort Leavenworth, Kansas

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## ABSTRACT

### DEVELOPING THE THEATER LEVEL AERIAL PORT OF DEBARKATION, ORGANIZATION AND STRUCTURE by MAJ David J. Kolleda, USA

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This monograph will compare the structure for accomplishing strategic deployments, outline the major aerial reception requirements, and propose an organization and structure for execution of airlift debarkation operations at the theater level. This paper will show by comparison the procedures from the Vietnam War, Operation Desert Shield/Storm, and current OOTW deployments.

This monograph will conclude with a recommendation on how to organize a theater APOD to support a long-term contingency operation. If the US Army intends to set the conditions for success in future force projection operations then it must be sufficient to learn from the previous tautologies. The US Army's history in conducting airfield operations at the strategic level clearly illustrates the deficiency in the ability to transition from strategic airlift to the operational level of war. Speed of response and the strategic airlift system capability can easily overwhelm a poorly designed and constituted theater airfield reception operation. Contemporary total asset visibility programs and the demand for in transit visibility demand a deliberate action to structure a capable airfield structure responsive to DOD STAMIS systems and maneuver commander demands.

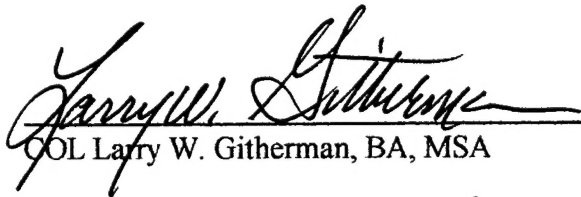
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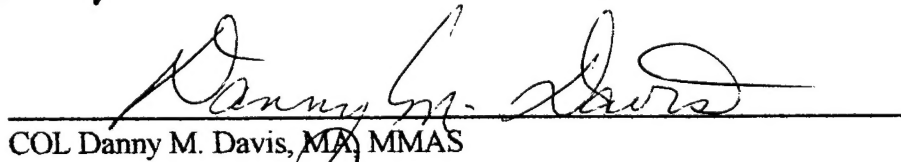
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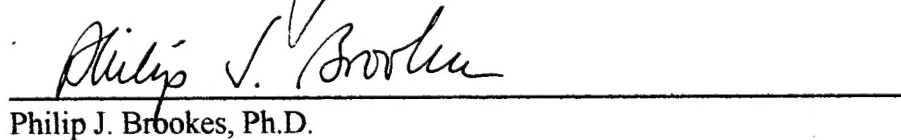
Approved by:

  
COL Larry W. Githerman, BA, MSA

Monograph Director

  
COL Danny M. Davis, MA, MMAS

Director, School of  
Advanced Military  
Studies

  
Philip J. Brookes, Ph.D.

Director, Graduate  
Degree Program

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## INTRODUCTION

Since military airlift became a viable form of transportation during the Second World War (WWII), the United States Army has failed to thoroughly prepare itself for conducting large scale strategic airlift deployment and sustainment operations for any national emergency or contingency response of extended duration. The capabilities of US strategic airlift forces were first brought to the forefront during military operations in Korea. Combat operations in Vietnam and the Persian Gulf were similarly supported largely by strategic airlift. During each of these periods in US military history there is sufficient evidence to show that the Army failed to provide a capable Aerial Port of Debarkation (APOD) port operating structure with all of the capabilities required to provide seamless support for units and supplies arriving into the theater of operations.

The US Army can improve its ability to conduct and sustain strategic air deployment operations in support of the current National Military Strategy of power projection. To enable the Army to conduct its force projection operations in the most efficient means possible, the turbulence of transitioning major combat forces and the supporting logistics "tail" must be reduced by designing a standard organization and structure for establishing and operating theater level aerial ports of debarkation. The ability to establish and operate an efficient and effective strategic APOD during a crisis may be the key to accomplishing the two US national military objectives of promoting world stability and thwarting aggression.

Airlift is the primary means for immediate response in deploying a military force to

rapidly stabilize a conflict region. Given this, it only makes sense that the Army should be prepared to take full advantage of this element of national power by having the ability to establish a ground operating structure that exploits the Air Force's ability to land maneuver forces and sustainment supplies in records quantities.

The US Army keystone warfighting doctrinal manual, Field Manual (FM) 100-5, Operations, refers to strategic lift assets as enablers that allow for force projection operations, and specifies that deployment of forces via strategic airlift "requires careful management." <sup>1</sup> The manual leaves the reader to determine for himself what this careful management may mean. The most direct implications for the US Army in careful management of strategic airlift operations are TPFDD construction, the unit air deployment process, and the focus of this monograph, actions at the APOD. This look at strategic airlift also requires a systemic view of the total strategic deployment program.

The US Department of Defense strategic mobility triad rests on the component legs of airlift, sealift, and prepositioning (of equipment and supplies). Each of these component systems is critical to the systematic, timely, and efficient accomplishment of US Army force projection operations. Two of the mobility triad components, sealift and prepositioning, are characterized by standard organizations and functions for conducting force projection operations to support strategic unit deployments. The existence of these standard organizations sets the conditions for the execution of doctrine, and the fielding of automated management systems. The appropriate organizations and systems then provide an interface with Army and Joint level information and command and control management systems. This constructs a seamless, fort to foxhole program for deployment and sustainment.



The airlift component of the strategic mobility triad does not have the same advantage that sealift and prepositioning share, which is a standard organization for operating at the transition point from the strategic to the operational level. No standard army organization or structure exists for establishing strategic level APOD operations beyond the initial reception of forces. This creates a void in the desirably seamless transition of forces into war.

The US Army Field Manual 55-12, Movement of Units in Air Force Aircraft, provides short term/transient airfield operations guidance and techniques for executing Departure and Arrival Airfield Control Group (D/AACG) operations. The D/AACG is only a small requirement in establishing a theater level Aerial Port of Debarkation (APOD), and falls short of an acceptable long term strategic model. Yet, the need for a theater level APOD model gains importance in the contemporary global security setting which establishes the basis for the US national security strategy of power projection.

Standing US military presence overseas is steadily being reduced. Permanent stationing of military forces to demonstrate resolve is quickly being replaced by short term activities and deployments. Because of the draw-down of forward stationed forces, one primary principle for employing US forces to meet national objectives is the ability to project military capabilities into a theater of operations. The most responsive means for projecting military force is by airlift.

Airlift operations have in fact, been a critical element in support of US national strategy ever since the US Air Force experienced the expanded roles of strategic lift and aerial resupply in the Korean Conflict. The impact of strategic airlift upon the execution of combat operations simultaneously initiated the conflict between the US Air Force and US Army for service roles supporting the airlift process. Each felt a responsibility for developing an organization to

operate at the transition point between the Air Force air-landing of forces, and the Army reception into the theater. The US Air Force became the single service manager (sole provider) for strategic airlift in 1956. <sup>2</sup> At this point in time, both the newly organized Military Air Transport Service of the US Air Force, and the Army, began to vie for force structure to support airlift operations.

Airlift support doctrine during the Korean Conflict was nearly nonexistent. Airlift operations in Korea were not planned to detail, with much left to improvisation. The lack of a unified command and control structure designed to plan, execute, and control efficient airlift operations resulted in a compromise between the two services. The Army would load, lash, and prepare airdrop supplies and rigging, but under Air Force control of airport facilities. <sup>3</sup> Joint Chiefs of Staff conclusions at the end of 1951 supported the Air Force position, and resulted in USAF control over all port facilities with Army organizations providing support as tenant organizations on Air Force airfields. The USAF and Army both engaged in a process to formalize their service structures to execute airlift operations. The Aerial Port Squadron became the USAF agent for port operations, and the Army developed the Aerial Support Company as their answer to the port operator requirement. The Army never lost sight of the possibility of running airfields without full time Air Force support. <sup>4</sup>

In 1960, President Kennedy enlarged US commitments abroad. He depended on the new national resource of strategic airlift to provide global military response and flexibility. <sup>5</sup> By 1963, Secretary of Defense Robert McNamara partially closed down the surface line of communication that had continued to support the deployed forces in Europe since the end of WWII. He favored a more robust use of strategic airlift for sustainment of forward deployed

forces, and set to prove its utility. <sup>6</sup>

Strategic airlift further realized a new role early in the Vietnam era. Airlifters became a major means of transportation and the mode of choice over surface movements for delivering high-priority cargo into the South East Asia Theater. The air deployment of the 3rd Brigade, 25th Infantry Division into Pleiku marked the first complete airlift of a unit into a deployed location. <sup>7</sup>

Despite the new achievements in military airlift, doctrinal problems continued between the two services. Conclusive comments during the Vietnam War documenting that the capability did not exist in the Army to provide an adequate ground-based structure to make the Air Line of Communication (ALOC) work, produced no foreseeable future Army plans to assume positive control of forces and sustainment where the USAF physical airlift ends. <sup>8</sup>

Given the more contemporary focus of military operations in regional conflicts, one must assume that the previous statement made by the post-Vietnam Joint Logistics Review Board, reference the Army's inability to transition from airlift, rested on the precept of fighting a conventional battle for the defense of Europe. The European continent was the only established theater where the infrastructure existed for a large airlifted force to be rapidly integrated into battle. The succeeding airlift milestone of 1973 supported the same conventional thought, while supporting a conflict in a non-European theater.

The glowing sounds of praise were fresh in our ears after the US Air Force's role in executing a massive airlift operation during the 1973 Mid East War. Airlift was credited for saving Israel from near certain military defeat,<sup>9</sup> and strategic airlift resultantly became the preeminent force in executing President Carter's strategy of Rapid Deployment Force (RDF)

operations. The 1973 airlift proved the viability of a national emergency military response force, and the 1978 RDF program became the precursor to the 1990 decade US military force projection concepts. Despite the weighty influence of airlift upon military doctrine in the last fifty years of US military history, the US Army has continually failed to recognize the importance of planning for an efficient and effective theater level APOD operation designed to provide adequate strategic to operational level management and visibility.

APOD operations appear to be the missing link in associated service doctrine as it relates to executing deployments under the mobility triad paradigm. The US Navy, Marine Corps, and Army each have institutional structures for operating sea ports of debarkation (SPOD). The US Air Force, Marines and Army have procedures for establishing, maintaining, and drawing prepositioned equipment (afloat and land-based). The Air Force has an aerial port structure to permit it to perform the duties required of the services' primary airlifter, but these airlift proponent responsibilities may not include the cargo handling, storage, and support operations to support the other service forces in a theater of operations. Integration of the transition process for all forces and sustainment entering an operational theater is significant to the well-being of deployed forces.

Air and seaport operations and the clearance of the cargo moving through them are the responsibility of the theater commander. The supported ground combatant commander is responsible for developing a theater reception and onward movement plan.<sup>10</sup> Maintaining a synchronized flow and balancing the arrivals of unit equipment that primarily flow by sea, and personnel, which deploy by air, is critical to maintaining an efficient plan for reception, staging, onward movement, and integration (RSOI).

FM 100-17, Mobilization, Deployment, Redeployment, and Demobilization presents a five-step strategic deployment paradigm. Debarkation operations undertaken at the aerial port fall into the fourth phase of the model. The actions undertaken at this point in the strategic deployment flow include all the operations at respective APODs and seaports of debarkation (SPODs).

The airlift operations at the APOD may consist of a mix of strategic and theater missions. The strategic missions are those that originate outside of the theater of operations and are designed to deliver deploying units and sustainment supplies into the operational theater. Theater missions are those that originate and terminate within the theater geographical boundaries. The supporting unit at the airfield must be capable of the total operation.

The US definition of an aerial port is an airfield that has been designated for the sustained air movement of personnel and materiel, and to serve as an authorized port of entrance or departure from the country in which located.<sup>11</sup> The D/AACG is not a unit capable of sustained operations of anything more than a forward tactical airfield. Establishing and operating APODs is a foundation stone to developing and executing the theater supply distribution and transportation plans. This is a mission that requires more than an ad hoc operating structure.

## COMPARISON OF STRATEGIC DEPLOYMENT PROGRAMS

This chapter addresses the doctrinal procedures for the mobility triad components of prepositioning and sealift, then identifies the current doctrinal guidance and shortfalls of the airlift component.

### PREPOSITIONING

The Army global prepositioning strategy for equipment occurs in two ways, either as Prepositioned Materiel Configured to Unit Sets (POMCUS), now doctrinally known as Army War Reserves, or as Army Pre-positioned Afloat (APA) materiel. POMCUS is land-based storage and the APA remains afloat on a fleet of cargo vessels ready to respond to contingencies around the world.

POMCUS, as originally known, was initially developed for the NATO contingency. The final disposition was for six Army POMCUS divisions to be prepositioned in Germany. This program eliminated the need to provide strategic lift to almost 100,000 tons per division of prepositioned equipment.<sup>12</sup> The APA was a follow-on program designed to provide additional flexibility to geographic CINCs to respond to non-European regional conflicts. The USMC and USAF each also have their own programs for afloat prepositioning.

Land-based Army War Reserves (AWR) are aligned by geographic responsibility. AWR-1 provides equipment and supplies for CONUS operations; AWR-2 for Europe; AWR-4, Pacific (Korea); and AWR-5 for South West Asia. Each geographic war reserve has a specific

stockage level and organization structure for armor and mechanized maneuver brigades, and in some cases artillery support, that must be maintained for US Army response to contingency operations.

The Army has long practiced such contingency deployments and POMCUS draw procedures through exercises such as Return of Forces to Germany (REFORGER) through the 1980's. POMCUS aligned unit deployment training stressed the requirement to deploy a lead echelon to help prepare for the draw of the unit's prepositioned stocks prior to the unit main body arrival. Unit deployment plans included the movement of the equipment draw team from the point of debarkation to the POMCUS site to check the equipment and prepare it for combat. Units developed a "battle book" or like-titled standard procedure for executing the equipment draw from the POMCUS site. Once the equipment draw was completed by the advance echelon, the draw teams then rendezvoused with the main body at designated assembly areas.

Maintenance and administrative programs keep the reserve stocks in operational condition. The US Army Materiel Command (AMC) maintains overall proponentcy for the care of supplies in storage. Local responsibilities are tasked to regional subordinate commands for hands-on care. The Combat Equipment Group, Europe (CEGE), 19th Theater Army Area Command (TAACOM) in Korea, and US Central Command (USCENTCOM) provide for the daily management and maintenance support requirements of the war reserve stocks in their areas of responsibility. POMCUS aligned units maintain supply data on availability of equipment and periodically conduct on-site visits to reconcile capabilities and requirements shortfalls.<sup>13</sup>

AWR-3, which is the Army prepositioned afloat materiel program, was designed to be an enabler to a more responsive and flexible force projection army. The APA has no specific

geographic alignment. The AWR-3 program of the 1990's began as the near term pre-positioned fleet of the 1980's Rapid Deployment Force and was based in the vicinity of the Philippine Islands. The doctrinal foundation for the force projection concept and the APA is more recent and not as widely known as the land based POMCUS procedures. FM 100-17-1 provides the doctrinal guidance for the afloat stocks. The APA provides a flexible deployment response capability to any part of the world with the minimum of a heavy brigade worth of armored fighting vehicles and associated support assets. The projected end state for US Army APA assets is a total of sixteen ships comprised of five different types to allow for a variety of capability from roll-on/roll-off, barges, containers, tugboats and landing craft.<sup>14</sup>

The APA mission is executed through a series of phased operations beginning with strategic planning and ending with regeneration and reconstitution of the afloat stocks. Execution of the APA can be tailored around four different theater opening force modules. The modules are designed to provide flexibility in the level of response of the port opening package based upon operational requirements. This process is designed in this manner because of the limited equipment and supplies available in the APA stocks. The CINC has Joint Chiefs of Staff approval to download only the necessary materiel required for the contingency response. APA stocks were used in ODS and for Operation Restore Hope (ORH) in Somalia.

APA theater opening force modules consist of packages of ascending capabilities, with one heavy battalion task force organization with required support slice and sustainment for a humanitarian response operation, a peace enforcing operation response is two heavy battalions with support and sustainment, a lesser regional conflict package has one heavy brigade task force plus, and a major regional conflict APA response module has two heavy divisions and one



additional heavy brigade, plus support and sustainment packages. All of these opening force modules may be augmented by additional deploying forces.

### SEALIFT

As in strategic airlift, assets moving by sealift must be transitioned from the strategic lift by an operational level command that receives the cargo and prepares it for onward movement to tactical organizations. Unlike the lack of doctrinal operating guidance characteristic of APODs, the SPOD reception program is well established. Three services, Army, Navy, and Marine Corps, each have the capability to conduct port operations at an SPOD. They also have different purposes. The Army has the standing mission to operate common user ports in a theater of operation. The Navy and Marine Corps each have their own organizations with less capability. The Navy's Cargo Handling and Port Group and the Marine's Landing Support Battalion (LSB) in the Forward Service Support Group, each may operate at single service water terminals, or in the case of the LSB, may first open the SPOD and prepare for transition to the Army to operate a common user port.<sup>15</sup> The Navy role is normally served only at existing naval ports and is usually limited to actual loading and discharge of vessels and less with the marshalling and clearance of cargo to customers. Their responsibility is to offload the ship and place the cargo on the pier. A separate organization then assumes control for the port clearance operation.

The designated port operator of a seaport in an area of operations has the responsibility to schedule vessel berthing, conduct the discharge, and prepare to release the equipment to the owning unit to clear the port cargo holding areas. The Army port operator will normally employ

a Port Support Activity (PSA) to conduct the liaison with the owning unit and then hand off the inbound unit equipment to that unit. The PSA performs some of the same operations as does a D/AACG for airlift. It is a representative of the deploying unit to help maintain control of the assets and receive them at the port. The theater sustainment stocks arriving the SPOD are likewise marshaled and pushed to the appropriate supply management agencies, without passing through the PSA.

Resident in the active component US Army force structure is a composite port operating group comprised of various types of cargo handling and transfer companies and Army lighterage companies. Deployed by task organization, the 7th Transportation Group (Composite) has the mission to serve as the port operator of both improved and unimproved seaport facilities in support of a theater of operation. There are also battalion size and smaller reserve component organizations available for deployment if required.

The Military Traffic Management Command (MTMC), the Army component command to the US Transportation Command (USTRANSCOM) operates the existing peace time military outports in the United States and various militarily significant seaport locations around the world. MTMC may assume responsibility as the port operator instead of deploying an element of the 7th Transportation Group in the case of a conflict response that can be supported by using one of MTMC's standard ports.

Prepositioning and sealift are not stand-alone programs. Along with the third element of airlift, the three elements of the strategic mobility triad must work together to provide a foundation for executing force projection operations. "Once a robust strategic mobility triad is in place, our major force projection weakness will be a constrained theater reception and

distribution ability." <sup>16</sup> The airlift leg is the weak link in the strategic mobility triad for reception of forces. There is no "ready" force to assume the mission such as the 7th Transportation Group or MTMC, and no doctrinal guidance for how to operate a strategic APOD.

## AIRLIFT

APOD operations guidance, in comparison to the doctrinal foundations for sealift and prepositioning, is woefully inadequate. The US military forces first officially recognized a doctrinal deficiency in conducting air terminal operations in 1953 with a Memorandum of Understanding for operations of Air Force terminals. <sup>17</sup> In this initial formal guidance outlining service roles, the Army and Air Force agreed to joint operations of air terminals. The biservice understanding provides for an Army agency to establish facilities as a tenant organization to execute appropriate local service agreements, and to manage Army cargo and provide special handling requirements. Current doctrine still encompasses the foundation of the 1953 regulation and further states that there may be separate Air Force operated terminals and Army operated terminals functioning simultaneously in a theater of operations. By agreement, the Army may conduct the loading and unloading procedures at either terminal. <sup>18</sup>

The Theater CINC is responsible for setting the foundation for reception of forces by identifying which service will operate the D/AACGs at the APODs and the port operators at the SPODs. "The purpose of aerial port operations is to ensure the timely and effective movement of personnel and materiel into, and across the theater." <sup>19</sup> The implication here is that assigning D/AACG responsibility does not have the same permanence or respective capability as assigning the water terminal operator, which has a more inherently permanent character.

The efficient management and handling of cargo at theater airfields is essential to an efficient theater airlift system. Unnecessary handling, misdirected and damaged cargo, and aircraft delays place an unacceptable strain on an already stressful operation.<sup>20</sup> While the potential for lost and damaged cargo is always present during large-scale emergency deployments, actual lost time and cargo would be greatly reduced by the presence of a standard organization with supporting command, control, and accounting systems.

The US Air Force's Aerial Port Mobile Flights (APMF) and Tanker Airlift Control Elements (TALCE) combine to establish USAF air terminal operations at deployed locations. Inherent in these two organizations is the communications package that provides command and control, ground support coordination, and communications with inbound aircraft. The APMF executes all of the terminal services and cargo handling requirements.<sup>21</sup> These duties encompass all requirements for handling, preparing, documenting, loading and unloading, and management of aircraft cargo loads including passengers. Only the Air Force has the capability by standard organization and function to execute these functions on a sustained basis.

Certainly the Air Force is the only service that should have this role. But joint, multiservice, and service doctrine is clear in establishing that other service users are expected to provide an element for coordination, liaison, and to act as the proponent for the owning service's cargo. By multiservice doctrine, this organization is the D/AACG. Any service component has the capability to, and may by doctrine, operate a D/AACG. The Marine Corps and Army are the most common airlift users and run the vast majority of the D/AACG missions. Only the Air Force has the organization and structure to operate a complete service air terminal, or APOD, for an extended period. Neither the D/AACG, nor any single standard Army unit has the capability

to operate a theater level APOD, as is available for SPOD operations. The D/AACG is a short term, ad hoc structure designed to provide hands on assistance and overall management of unit cargo moving through an Aerial Port of Embarkation (APOE) or APOD. It is a parochially minded organization to serve the purpose that there is no one more interested in the proper accounting and timely movement of unit cargo than the transiting unit itself. The focus is short term and unit specific.

The Army needs a standard generic organization that can replace a D/AACG during long term operations. Long term operations last long enough so that multiple division, corps and echelon above corps units and sustainment supplies are deploying simultaneously in the execution of a TPFDD. The main point is that a D/AACG has no capability to do cargo accounting and distribution operations in an accountable manner consistent with DOD supply and distribution system procedures. A standard D/AACG organization has no Standard Army Management Information System (STAMIS) capability to access, monitor, and input cargo status information into the Global Transportation Network to account for arriving cargo. Under current operations there is no capability for automated cargo documentation, or specific knowledge of how to handle and process special requirements such as aircraft replacement parts or medical supplies.

In a military where seamless logistics is a key to sustainability, this is a weakness which must be addressed. As a force projection army, the US can no longer expect to remain a coherent fighting force without the versatility to maintain command and control during transition periods between operations. Force projection means more than periodic deployments from home station. This is a national strategy that includes possible deployments from one

contingency to another without ever having the luxury to return to home station to allow unaccounted supplies to flow in, or a recovery period to get "healthy." The US military must maintain the tenet of versatility through operational flexibility. The very nature of the operational level of war is to act as a transition as well as the sinew holding together the strategic requirements and the associated tactical operations.

To capture the requisite requirements for maintaining command and control through transition operations, and maintain true flexibility in conducting force projection operations, the Army must correct the deficiency of not having a capable unit at the APOD that can provide the seamless effort needed to properly account for airlifted materiel. The Army role at the APOD has not diminished since the Air Force's first requests for assistance in operating terminals in Korea and then Operation Vittles, otherwise known as the Berlin Airlift.<sup>22</sup> The Army role in the future APOD operations will not change, and yet, the US Army still has no organized process, no organizational structure, and little experience in conducting theater level APOD operations.

The Army's role as a tenant on Air Force terminals must include capabilities exceeding those of the D/AACG operating at a tactical level. The Army APOD structure should provide the capability for total asset visibility through DOD STAMIS assets, by the systematic reception, storage, and distribution of all classes of supply in support of a Major Regional Contingency. To accomplish this requires a doctrinal process for supply management in transit, information systems to provide visibility of assets, and an organization to conduct the operation.

US Army doctrine that provides the procedures for maintaining accountability and visibility of supplies in transit is the Direct Support System (DSS).<sup>23</sup> DSS is the direct delivery of supply items to overseas Supply Support Activities (SSA) from US shipping locations. SSAs

exist in overseas areas where US troops are stationed and a distribution system is operational. In a situation where US troops will deploy without the advantage of an existing distribution system, the reception and handling responsibility of all incoming supplies becomes the responsibility of the port operators.

The doctrine further indicates that the "DSS/ALOC will operate in war as it does in peace to ease the transition to war. "<sup>24</sup> This may be conceptually sound, however the temporary D/AACG or tenant APOD operator does not have the training, systems, or knowledge required to act as a responsible agent in the DOD supply system. This shortfall played-out sequentially during the evolution of activities at the Dhahran APOD in Saudi Arabia.

## APOD MISSION ANALYSIS

The actions undertaken at strategic arrival airfields include the reception of deploying units with their associated cargo of equipment and rolling stock (vehicles), and the handling of sustainment supplies and materiel for the deployed forces. The major unit deployment window of execution is the initial mission for closure into the theater. Sustainment supplies may follow thirty days after the initial deploying forces, or later, depending on the level of national involvement, the number of strategic arrival airfields, and the deploying force structure. The process whereby these activities are executed at the APOD will partially set the condition for the future success of the sustainment program for the committed force.

The initial APOD requirements will likely be handled by an AACG formed from the lead elements of the deploying tactical force. The AACG is a relatively simple and austere organization and process. The mission is to accept the passengers and cargo from the Air Force, account for and marshal them, and prepare to move the unit from the airfield. A/DACG missions that continue beyond the deploying unit's ability to support are assumed by a supporting unit. During Operation Desert Storm, the mission was assumed by the first major support unit deployed, the 7th Transportation Group. The 7th Transportation Group assumed the initial AACG requirements for the deployment of the 82nd Airborne Division troops in August, 1990.

Shortly into the deployment of the 82nd Airborne Division, the 403rd Transportation Company from the 1st Corps Support Command, the higher support unit from the home installation of the 82nd Airborne Division, assumed responsibility for the AACG. By the middle of August, MG Pagonis, the commander of the Army component support forces executing the



reception mission, installed a theater level command and control structure over the Army activities on the airfield in an attempt to gain unity of command over what had become nearly the main logistical effort in the fledgling crisis response.

At this time the surface line of communication (SLOC) was beginning to close as shipping from the United States began arriving the Saudi seaports. Also, the ALOC began to receive the first nonunit supply arrivals from the DOD distribution system. Handling these supplies is significantly different from the process of receiving deploying unit personnel and equipment. The increasing complexity of the port operation was compounded by the fact that the US Marine Corps maintained an element on the airfield to act as their service AACG, and the US Air Force operated air terminal that functioned during normal peacetime operations was still in effect. These conditions led to a significantly large amount of multiple consignee and destination cargos arriving the Dhahran APOD.

MG Pagonis' provisional Area Support Group (Dhahran) (ASG [D]) skeletal staff began to establish procedures in an attempt to coalesce the previously disparate operating agencies on the airfield. The organizational structure for the Army consisted of the ASG command and control staff, and the Army and USMC AACGs, each operating under their own command relationship to their higher headquarters. The organizational structure for the Air Force (for airfield/port operations) consisted of the deployed Airlift Control Element (ALCE) and Mobile Aerial Port Squadron (MAPS) elements. The ALCE and MAPS were forerunners to the current TALCE and AMPF organizations.

The mission of the Air Force terminal is to stage and reship cargo transitting that particular location and not leaving Air Force control, and operate a passenger terminal. Staging

and clearing supplies to local ground forces is not normally included in the Air Force responsibilities when operating from a deployed terminal site. This becomes the responsibility of the appropriate service representative located on the airfield.

The process for receiving units and supplies is relatively simple. The Air Force transfers responsibility of the inbound traffic; passengers, cargo pallets, and rolling stock, once the load is accounted for and downloaded from the aircraft. The AACG then assumes responsibility and stages the cargo for release to the owning unit while marshaling the passengers in a holding area and coordinating transportation and a route clearance from movement control.

The process of unit reception was easily achievable by the 403rd Transportation Company operating at Dhahran. The process became more complex with the arrival of sustainment supplies. The physical organization of the airfield to facilitate the dual purpose requirements of unit arrival and sustainment supply handling is in itself academic; the actual process for maintaining visibility of the supplies that are in transit through the supply "pipeline" of the Defense Transportation System is altogether different.

The inception of the APOD as a node in the Direct Supply System requires that proper accounting procedures be followed in order to maintain a support system responsive to the needs of the combatant commander. These procedures include accounting for the reception of the cargo and logging in the receipt, staging for clearance, logging the issue or transportation clearance of the cargo from the airfield holding area, and maintaining accountability of all cargo remaining in or passing through the port.

From August of 1990 to January of 1991 there were seven separate Army units that contributed to the airfield cargo and passenger operations. This does not include the postal unit

responsible for receiving and sorting the inbound mail, the deploying unit representatives acting as liaison, or the assistance team of civilians who were sent by the US Army Materiel Command (USAMC) to attempt to identify and correct problems at both sides of the supply pipeline. The assistance team wrote procedures and conducted training on the proper methods for cargo handling, staging, and accountability. They were substantial in correcting or improving the airfield processes.

The rotating door method for conducting airfield operations in ODS was not conducive to systematic, continuous and responsive support of the maneuver forces for the receipt of air delivered supplies. The airfield organization was never able to reach a mature level of operation where proficiency was bred from within the organization and outside management could remain in the compliance and policy formulation mode.

Systemic problems included a lack of understanding by the various port operators of the procedures for cargo accountability for supplies moving through the Defense Transportation System in support of the DOD supply and distribution programs. This was exacerbated by the inability to establish and operate an automated cargo accounting system to maintain positive control of the 2,500 pallets that sometimes sat in the pallet storage area at the Dhahran APOD awaiting disposition and clearance to the destination points.

Lack of knowledge of the proper accounting procedures for operating a theater reception point, along with the small number of people required to handle inbound pallet shipments, sometimes over 400 aircraft pallets daily, resulted in a breakdown of supply documentation at the APOD. The proper manual procedure is for the receiving organization to remove the shipment accounting document from the cargo and enter the arrival date. When that cargo

departs the arrival airfield for movement to a follow-on destination, the card is again marked with the date of clearance from the APOD facility, noting the movement to final destination, or supply point.

An automated cargo accounting system for control of cargo awaiting clearance from the APOD is also a requirement. D/AACG structures, being inherently austere and short term, do not include an automation capability for operating an accounting program for cargo visibility. The primary purpose of a D/AACG is to coordinate nearly immediate clearance of unit supplies, not account for shipment transactions through DOD supply systems. Receipt of unit organic cargo from the Air Force is by itself, inherent accountability of unit receipt of cargo. No other D/AACG action is required.

For operation of a theater terminal, an accounting system is a necessity due to the amount of supplies passing through the facility. The Dhahran APOD served multiple customers. Theater support units, two maneuver corps, all services, and contractors received sustainment supplies through the airfield. The result of this effort in the civilian world would be similar to a city of several hundred thousand people being supported by an airfield with no systemic procedures or base organization to execute operations. The result would be complete anarchy.

## HISTORICAL ANALYSIS

### KOREA

Ever since the 1943 Burma Campaign and the US fight for the island of Papua,<sup>25</sup> military history has been punctuated with incidents of resupply of forces by air. During World War II, airpower, and in association, airlift, became the "new weapon of war."<sup>26</sup> Yet the power of airlift, and its associated concerns, carried into the American War in Korea in a doctrinal infancy for supporting military operations by strategic airlift.

"No procedures or doctrine for the operation of an aerial port were established when we went into Korea."<sup>27</sup> Responsibilities between the Air force and the Army were wholly unestablished. The Army Quartermaster and Transportation branches were themselves unsure of who should be responsible as the service representative and terminal operator for Army units and materiel passing through the APODs.

Virtually no one from either service was trained in airfield operations and even fewer had practical experience. Air Force organization and manning was not sufficient to conduct the APOD operations required for the contingency response, and the Air Force initiated cooperative support from the only experienced Army element in the region, "... the Army's Air Transportability Training Center at Matsushima [Japan] furnished the personnel who ran the Aerial Ports of Embarkation . . ."<sup>28</sup> at the onset of the Korean combat experience.

Throughout the latter months of 1950 and into the spring of 1951, the Air Force made numerous organizational changes to attempt to achieve sole proponentcy for operating the air terminals. The Air Force organized the Combat Cargo Command and initiated the APOE

concept. The Air Force assumed responsibility from the Army for these operations but realized a major weakness in unity of command between aircraft operations and terminal operations at the newly created air terminals.<sup>29</sup>

In a continuing effort to gain maximum efficiency through sole source operations and an encompassing command structure for all Air Force forces at an air terminal, the Air Force organized the first ever Air Terminal Group and stood up detachments to operate the various terminal locations. In 1951 the Air Force was given permission to assume the entire Far East air terminal system. They had mobile units that would deploy to any location and run air terminals including loading and offloading of all cargo and passengers, mail, administration, and general management.<sup>30</sup> By April, 1951, Army presence at strategic APODs was reduced to transportation representatives in aerial port cargo holding areas to help with army cargo. The Quartermaster Corps maintained separate tactical air resupply requirements and retained their airdrop and rigging responsibilities.<sup>31</sup>

Through the course of the Korean War and by the end of 1953, the Air Force had fully integrated Mobile Aerial Port structures across operational areas in overseas locations. But this did not deter the desire by the Army Transportation Corps to wrest control of the aerial port structure from the Air Force. The Transportation Corps, in response to the continued insistence to have a hand in operating their own APODs, developed an Aerial Port structure comprised of a headquarters element, port operating companies, and associated truck, military police, ordnance (ammunition), signal, and quartermaster companies, detachments, or sections.<sup>32</sup> These Aerial Port units would operate autonomously.

The final result of strategic airlift during the Korean War was the element of speed for

personnel and equipment replacements and for medical evacuation. The overall tonnage of supplies airlifted by strategic aircraft was a "minor consequence" in comparison to the surface lift effort but the items involved were normally critical.<sup>33</sup> The careful management and distribution of the assets was vital to the morale of the soldiers and units in the field. Even with the great strides made in strategic airlift operations, problems were to persist into the next national military crisis.

## VIETNAM

Once again, the US Army experienced a continuing doctrinal fault as, "The indispensable aerial port contribution in Vietnam was accomplished with little guidance from prewar doctrine."<sup>34</sup> The fundamental airlift deficiency during the Vietnam conflict was a lack of sufficient aerial port facilities in general,<sup>35</sup> but it was the actual airfield reception capability that was the most restrictive. There was no continuity in the inbound shipments and the associated documentation was not sufficient to provide adequate tracking and accountability.<sup>36</sup>

The escalatory affect of speeding combat troops into the Vietnam theater created a wide gap between operational requirements and what the logistic base could support.<sup>37</sup> The associated logistic inefficiencies resulted in a lack of trained people and units to conduct APOD operations, and the failure on the part of the supported and supporting commanders to limit the flow to computed throughput capacities.<sup>38</sup>

By 1965 airlift became the dominant mode over surface for the strategic movement of personnel and had delivered 85,000 soldiers into the theater. In exponential fashion, this figure had reached two million by the end of 1969, and airlift had further become the standard practice

for the movement of weapon systems and components and high value repair items.<sup>39</sup>

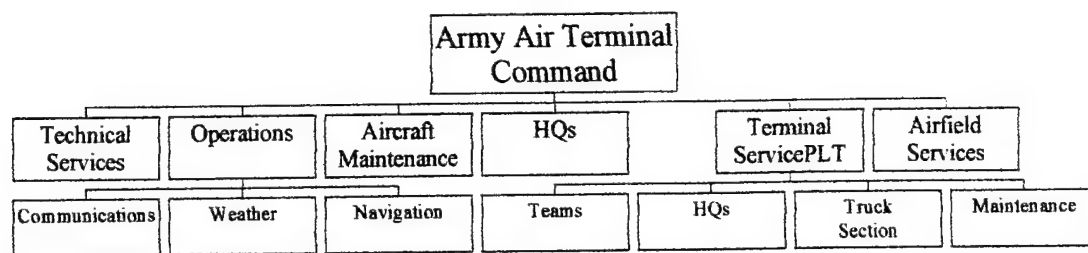
Until 1965 when the first senior transportation headquarters was established in the theater, the management of the airlift effort was conducted at local levels and there was no operational level management of the theater airfields. The advent of the 4th Transportation Command (TRANSCOM) brought technical and operational control of all land and water ports including the primary theater APOD at Tan Son Nhut Air Force Base.<sup>40</sup> The development of an operational level support structure became a primary focus at this time.

From 1969 to 1971, the continuing Army and Air Force doctrinal conflicts "subsided as both services acquiesced in the established division of roles."<sup>41</sup> The Army however, still recognized their deficiency of not having a generic organizational structure for specific operation at aerial ports. "The current Army terminal service organizations [designed primarily for surface port operations] do not provide sufficient flexibility for effective operation of an air terminal in view of expanded Army participation in air logistic support."<sup>42</sup> What the Army was seeking was a more air deployable organizational structure that could better accomplish future Army air terminal operations, plus have the appropriate command and control headquarters.<sup>43</sup> The result was the recommended Army Air Terminal Command structure at figure 1.<sup>44</sup> The primary lesson from the build up phase of the Vietnam War was the issue of a central logistic system design.<sup>45</sup> During the early stages of the conflict when the majority of the airlift was dedicated to unit movements, 50% of passengers arrived the theater by air. By 1969, 100% of the passengers arrived by air. Between 1965 and 1969, passenger airlift increased sixfold and the cargo increased by 5.5 times.<sup>46</sup> This second explosion in the use of military airlift resulted in the Vietnam Joint Logistics Review Board finding that, "Adequate



ground handling facilities to cope with the increased tonnages envisioned do not exist and a

Figure 1.



revision of the services' logistic support systems is necessary if the increased airlift capability made available by the C-5 is to be used with effectiveness and economy."<sup>47</sup>

Despite the lessons learned from US operations in Vietnam, and the various recommendations that resulted from those lessons, little would change in conducting APOD operations. Service roles did become more defined. The Air Force, adept at deploying their mobile port squadrons for contingency operations, had by now implemented a base line solution for efficiently operating arrival airfields. The Army still lagged far behind in recognizing a standard structure for conducting long term, systematic support to a theater APOD.

## SAUDI ARABIA

The US Army suffered the same experiences from APOD structure mismanagement in Operation Desert Storm in 1990/91. "Again, the 'push' of the strategic deployment overwhelmed the theater reception capability. The ill-fitting joint between strategic mobility and theater reception slowed the deployment at the receiving end and undermined the strategy's timing."<sup>48</sup> There are more operational causes that support this statement than solely airfield reception, but the fact remains that had there been more than just two primary reception bases in Saudi Arabia

for the initial deployments, some of the other implications, such as an appropriate mix between fighter wing deployments and ground forces, may not have been so contentious, as they would have been alleviated solely through dispersion of attack and lift assets between available airfields. Additionally, during the first month of deployment, airlift served as the sole connection into the Saudi Arabia theater. The distance involved, criticality of response time, and available airfields kept the large number of Army deployment flights destined into two airfields. Most of the USMC deployments flowed into a third airfield. Initial sealift closure would follow weeks behind the beginning of the airflow.

Airlift had never before seen the achievements reached during the Operation Desert Shield/Storm (ODS) deployment. "In August MAC [Military Airlift Command] flew over 2000 missions, carried enough passengers and cargo to move the equivalent of a town the size of Jefferson City, MO -- "including all the people, their cars and trucks, food, retail stock and household furnishings."<sup>49</sup> Airlift in fact handled considerably more cargo than the contingency plan initially estimated. In the twelve week period from 7 August until 8 November 1990, 5,235 airlift missions delivered 4 1/3 divisions, 1 1/3 Marine Expeditionary Forces (MEF), 22 fighter squadrons, and over 185,000 troops.<sup>50</sup> In the next nine weeks (until 16 January), another 10,693 airlift missions closed 3 1/3 divisions, 1 2/3 MEFs, and the associated theater sustainment supplies for the theater forces.<sup>51</sup> At peak surge, 124 strategic airlift missions arrived each day; the equivalent of one every eleven minutes.<sup>52</sup>

"Instead of landing, getting our bearings, and then organizing an operation for a sequence of steps--reception, onward movement, and sustainment-- we would be setting up the organization at the same time we would be receiving and moving troops."<sup>53</sup> This was the

consequence to "General Schwarzkopf's decision to send combat units first, support units second"<sup>54</sup> instead of executing a balanced flow of support troops to combat troops.

General Schwarzkopf's decision is certainly understandable in light of the security considerations evident at the time. The problem with this is the extent of the affect on the theater force structure and ability of the logistic force to act as a combat multiplier through quick and knowledgeable reception and integration of forces and materiel moving through the single APOD at that point in time. "During August, [General Pagonis] had to 'plunder' incoming units to set up a bare-bones reception infrastructure. He had to borrow combat troops, train them for short-term logistical projects, then send them onward to their combat units, and then repeat the cycle."<sup>55</sup>

Part of the reason for this occurrence is the Cold War Army paradigm that assumes deployment into an existing base support structure. General Pagonis in fact had to build an APOD operating structure while performing the duties required would an existing one already been in place. Deployment of combat units in priority over support troops may not have changed the conditions under which he operated, however, the identification and planned movement of a core of basic units required to run a theater APOD would have resulted in far less confusion and much more quick and effective control over inbound cargo.

The level of effort was significant. When General Pagonis assumed the logistic responsibilities as the Support Command (SUPCOM) (Provisional), 40,000 soldiers arrived the Dhahran APOD between 10 and 25 August.<sup>56</sup> One month into the deployment, General Schwarzkopf's priorities were for 100% of all medical and perishable goods to arrive by air, 90% of all repair parts, and 10% of other cargo.<sup>57</sup> These are materials that no warfighter should

trust being haphazardly handled by less than the intended procedures.

Seventy eight per cent of over 15,400 flights, 484,000 passengers, and 524,000 tons of cargo<sup>58</sup> landed at four primary airfields in the Kingdom of Saudi Arabia.<sup>59</sup> "The major congestion problem resulted from differing views between strategic transportation needs and in-theater logistic capabilities and the Air Force versus Army doctrine."<sup>60</sup> TRANSCOM lessons learned mirrored the delta between the two services. The funnel affect of delivery materiel from multiple onload sites to very few offload sites caused a response to attempt to limit the airflow to a level supportable by the theater infrastructure of airfields and supporting units. Further focus should be on the leadership to determine on the availability of expanding the reception program.<sup>61</sup>

#### PEACE OPERATIONS

Short term peace operations appear to be satisfactorily served by the D/AACG doctrine without any requirement to assume a complete theater APOD structure. Operations in Panama, Somalia, Haiti, and most recently Bosnia-Herzegovina were satisfactorily supported by temporary D/AACG structures. This is not to admit there was not room for improvement in either the mission planning that preceded these operations, or the execution procedures, however, the basic position for this paper is that successful sustainment transitions from the DOD supply programs to operational employment was not conditional to a theater APOD supporting short term, and peace response operations.

Just Cause in Panama was a relatively short term operation that did not require a transition to a large scale theater sustainment program. The operation was generally dispersed

by activity, and combat operations were supported from numerous theater POD locations. The Haiti deployment, though considerably longer, shared some of the same basic operating conditions as did Operation Just Cause. One major APOD was established vicinity Port-a-Prince but many supplies were also delivered by surface means due to the proximity to the United States and the availability of SPODs. Operations at the APOD, while significant to the overall operation were not of the same level of intensity for cargo reception and theater sustainment requirements as it would be for a large scale, long duration MRC response.

Operation Restore Hope in Somalia was nearly a year and a half in duration. During that period of time there was never a requirement by the 7th Transportation Group, who served as the port operator for both the APOD and the SPOD, to increase operating capability in response to inordinate cargo handling requirements. From December 1992 to January 1993, 10,000 Army personnel arrived the theater. The first 30 days of the deployment represented the peak of the deployment requirements, reaching 82% of the US strength and more than half of the associated equipment requirements. Sustainment airlift began in late December on a very slow delivery schedule due to infrastructure restrictions that kept the inbound cargo requirements minimal.<sup>62</sup> The deployment time line and artificial force level limitation constrained any possible significant upgrade of the airfield support.

Storage and distribution of materiel in support of the deployed forces were relatively simple since the disposition of forces was generally clustered, and very often remained in the vicinity of Mogadishu and the ports. Actual tactical distribution and safeguarding of materiel were quite difficult and hazardous but not pertinent to this thesis. The primary technique that the D/AACG employed to offset the documentation and supply visibility issues inherent to the

nature of temporary operations was to have the materiel management representatives conduct periodic visits to the pallet storage area to identify cargo and provide distribution instructions<sup>63</sup> so that the distribution plan and the transportation plan were mutually supporting and delivery of the supplies could be arranged by the clearance representative. By this process, the airfield operator and the material managers were able to maintain accountability and visibility of the inbound cargo and make informed disposition decisions for unit destinations.

APOD operations in support of the peace effort in Bosnia-Herzegovina have seen some improvements in the DSS shipping process. Sustainment pallets are packaged and marked to improve the handling and documentation process. This reduces the effort needed to maintain accountability and pallets that are packed by ALOC standards can be shipped directly to the destination support agency or unit without additional handling required. Many pallets are even arriving the theater with the benefits of new technology in an effort to further reduce the manual use of accounting procedures. These pallet have radio frequency (RF) tags for electronic marking. The problem is that D/AACG unit does not have the technology on the receiving end to employ these procedures.

The 403 Transportation Company continues to serve as the D/AACG support element. Even though the airfield has transitioned to a strategic APOD, their capability has not been enhanced to handle the requirements needed to maintain visibility of the sustainment supplies.<sup>64</sup>

## CONCLUSION

As we have seen, the US Army continues to be plagued with the same inadequacy in the strategic airlift deployment field; the inability to provide seamless logistic resupply from the theater APOD to forward troops since strategic airlift became a force multiplier during the Korean Conflict. "The growing capability of U.S. civilian and military airlift emphasizes that the Services must develop and test boldly engineered logistic systems to exploit the advantages inherent in this mode of transportation."<sup>65</sup> There are many similarities between this Joint Logistics Review Board comment in 1970 during the Vietnam conflict, and the current condition of military and civilian airlift in 1996.

In December of 1970, the US Air Force took delivery of the first C-5A Galaxy airlifter which greatly increased the amount of cargo passing through a terminal over a short period of time. In 1996, we have seen our decade's new airlifter, the C-17 Globemaster III, in support of numerous exercises and peace operations. The commercial industry is also beefing up aircraft capabilities with larger aircraft such as the 777 model. The impact on ground handling requirements is obvious. If US APOD operators handled 40 aircraft of lesser capacities in a twenty four hour period during Operation Desert Storm, what would be the result of even more numerous cargoes without an increase in an already poorly designed functional handling capability at the receiving end?

A national security strategy built on power projection, with a national military strategy of force projection will hardly serve a nation that disrupts the fundamental principle of rapid and flexible response through a failure to adequately staff and function for the arrival of forces and materiel into an operational theater. To fix this deficiency, the US Army must

automate the cargo documentation procedures and field the capable systems to an organization capable of executing the requirements necessary to organize and operate a successful APOD program. DSS objectives and the continuity in both physical flow and accountability of materiel moving through the APOD are not negotiable requirements.

Warfighters should be able to make operational decisions without being fearful of the support system he depends upon to sustain the equipment and soldiers that are the tools of war. Each US Operation Desert Storm soldier flown into the theater of operations required approximately one ton of airlifted cargo in support,<sup>66</sup> and almost every one of the over 500,000 soldiers was deployed by air. This is an exponential increase to the 46,000 airlifted in Korea and 86,000 flown to Vietnam (in 1965).<sup>67</sup> Even with the proof of the dominance of airlift for contingency response, the US Army has yet to change the organization for combat but very little, for transitioning strategically airlifted forces to the operational level of war. "The nexus between strategic transportation and in-theater reception [for every major US conflict since the inception of strategic airlift] slowed the deployment and hindered global mobility."<sup>68</sup> The US Army must open it's eyes to the advantage lost through the misapplication of force structure for theater APOD operations.

Field Manual 100-5 is correct in the statement that airlift (and sealift) is critical for deployment and sustainment of US Army forces.<sup>69</sup> The supporting doctrine for Field Manual 55-12 is valid and pertinent to the application of D/AACG operations for short term tactical requirements. The multi-service doctrine on D/AACG procedures does not need to be changed, only the understanding of the requirement to transition from a short term organization to a full APOD servicing organization. Doctrinal guidance is inadequate for this purpose.



USAF deployment procedures for standing up an air terminal include standard requirements for both the MAPF and the TALCE elements for conducting airfield operations. The Army should provide a like standard organization.

A standard organization must include command and control, cargo handling and terminal operations, supply accountability and automated cargo documentation, US Postal Service support, and movement control and cargo clearance operations. No single unit has the capability to perform all of these functions. Without development and sourcing of a new Army unit built specifically for this purpose, which is not a viable fiscal or strength management option, the primary solution would then be to identify a group of units that could collocate and operate an airfield with all associated capabilities.

The composition of forces operating at a theater APOD should be organized with an area support command and control headquarters of a battalion if the airfield is operating as a semiautonomous entity, or at a group level if included with other support relationships. To operate the port efficiently it must have as subordinate elements (either in whole or in part depending upon the size of the operation) a Transportation Company (Cargo Transfer) to handle the unit movements, aircraft cargo and passenger operations, packing, preparation and clearance of cargo, and general operational requirements, and a Quartermaster Company (General Supply) to manage cargo receipt, storage and issue, accounting procedures, and coordination with theater, corps, and national supply activities. Subordinate to either the companies, or higher headquarters, would be the movement control operations, which may be performed by the future questionable existence of the Reserve Component based Air Terminal Movement Control Teams, and a automated cargo documentation detachment to perform system requirements,

operate the cargo accounting data base, receive cargo manifest information from the Air Force, and provide cargo transmission reports to appropriate headquarters and organizations.

The port operations will also require a postal organization to handle mail shipments. Desert Storm mail requirements from November, 1990 to April, 1991 was 31,800 tons of mail.<sup>70</sup> This is a significant issue that cannot be overlooked. Transportation mode operations units will also be required either in a support role, or assigned, to provide the necessary clearance of cargo to the final destinations.

If the US Army intends to set the conditions for success in future force projection operations then it must be sufficient to learn from the previous tautologies. The US Army's history in conducting airfield operations at the strategic level clearly illustrates the deficiency in the ability to transition from strategic airlift to the operational level of war. Speed of response and the strategic airlift system capability can easily overwhelm a poorly designed and constituted theater airfield reception operation. Contemporary total asset visibility programs and the demand for in transit visibility demand a deliberate action to construct a capable airfield structure responsive to DOD STAMIS systems and maneuver commander demands.

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